AMENDMENTS TO CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for checking a value document having an authenticity feature in the form of at least one luminescent substance, comprising the steps of:

irradiating the value document with light <u>from a light source</u>, thereby causing the value document including said luminescent substance to emanate luminescence radiation;

detecting said luminescence radiation emanating from the value document with spectral resolution <u>by using a spectral sensor</u>;

forming<u>,</u> a measuring vector (X) from measuring values corresponding to different frequencies and/or frequency domains of the luminescence radiation; and

~~doing~~ <u>causing an evaluation device to perform</u> an object allocation of the measuring vector (X) to one of a plurality of given reference vectors ($A_1, ..., A_k$) corresponding to different authenticity features ~~is done~~ by allocating at least one object allocation area ($G_1, ..., G_l$) to each reference vector ($A_1, ..., A_k$) and checking which object allocation area ($G_1, ..., G_l$) the measuring vector (X) is located in to determine whether an authenticity feature corresponding to one of the reference vectors is present in the value document.

2. (Previously Presented) The method according to claim 1, including a further step for checking whether the amount ($|X|$) of the measuring vector (X) is greater than a given reference value (R).

3. (Previously Presented) The method according to claim 2, wherein the step of checking whether the amount ($|X|$) of the measuring vector (X) is greater than a given reference value (R)

is carried out before the step of allocating the measuring vector (X) to one of a plurality of given reference vectors (A_1, ..., A_k).

4. (Previously Presented) The method according to claim 1, wherein the measuring vector (X) and the reference vectors (A_1, ..., A_k) are normalized.

5. (Previously Presented) The method according to claim 1, wherein the object allocation of the measuring vector (X) to one of the reference vectors (A_m) is done by comparing the measuring vector (X) with a plurality of reference vectors (A_1, ..., A_k) and/or with at least one quantity (T) which depends on at least two reference vectors (A_1, ..., A_k).

6. (Previously Presented) The method according to claim 1, wherein the object allocation of the measuring vector (X) to one of the reference vectors (A_m) is done by determining a smallest distance ($d(X,A_m)$) from the measuring vector (X) to the reference vectors (A_1, ..., A_k).

7. (Previously Presented) The method according to claim 1, wherein a quantity (T) which depends on at least two reference vectors (A, B) is formed as a separation plane (T) between the two reference vectors (A, B), the separation plane (T) separating the object allocation areas (G_A, G_B) of the two reference vectors (A, B) from each other.

8. (Previously Presented) The method according to claim 7, wherein a quantity (T) which depends on at least two reference vectors (A, B) is formed as a separator plane (T), characterized in that the object allocation of the measuring vector (X) to one of the reference vectors (A_m) is determined by determining a position of the measuring vector (X) relative to the separation plane (T).

9. (Previously Presented) The method according to claim 1, wherein the luminescence radiation is measured with time resolution on a value document to be checked, such that the comparison of measuring vector (X) and reference vectors (A, B) can be done time-dependently.

10. (Previously Presented) The method according to claim 1, wherein the measurement of the luminescence radiation is done only on one or more predetermined partial areas of a surface of the value document which can be predetermined denomination-specifically.

11. (Previously Presented) The method according to claim 1, wherein the measuring vector (*X*) comprises measuring values of an invisible spectral range.

12. (Previously Presented) The method according to claim 1, wherein evaluation of the measuring values takes account of a background signal (*L*2-*L*1) which does not come from the luminescence radiation.

13. (Previously Presented) The method according to claim 12, wherein, for forming the measuring vector, an amount depending on the magnitude of the background signal (*L*2-*L*1) is subtracted from the measuring values.

14. (Previously Presented) The method according to claim 13, wherein the amount is dependent on the magnitude of a minimum and/or maximum of the measuring values and/or a ratio of two measuring values.

15. (Previously Presented) Apparatus for checking value documents having an authenticity feature in the form of at least one luminescent substance, comprising:

a light source for irradiating the value document;

a spectral sensor for detecting with spectral resolution ~~the~~ luminescence radiation emanating from the value document, and having an evaluation device connected to the spectral sensor for determining whether the authenticity feature is present in the value document,

wherein the evaluation device is arranged to form a measuring vector (*X*) from the measuring values corresponding to different frequencies and/or frequency domains of the luminescence radiation, and is further arranged to do an object allocation of the measuring vector

(X) to one of a plurality of given reference vectors (A_1, ..., A_k) corresponding to different authenticity features by allocating at least one object allocation area (G_1, ..., G_l) to each reference vector (A_1, ..., A_k) and checking which object allocation area the measuring vector (X) is located in.

16. (Previously Presented) The method according to claim 7, wherein the separation plane (T) is an (n-1) dimensional hyperplane.

17. (Previously Presented) The method according to claim 11, wherein the invisible spectral range is an infrared spectral range.

18. (Previously Presented) The method according to claim 11, wherein the invisible spectral range is an ultraviolet spectral range.